Cooperating to reach excellence

The Factory Management INSTITUTE

ji kōtei kanketsu [1]

Series: Retrieve World's #1 Quality 49:

White-collar innovation is needed now

Yukio Yamamoto (Journalist, former editorial writer for Nikkan Kogyo Shimbun)

English translation and editing of the article originally published in Japanese:

https://www.techno-con.co.jp/info/back9_1212a.html

Eduardo L. García – 2023

Abstract: In this article, the author details the low productivity of the Office-Gemba workers compared to their Production-Gemba colleagues at Toyota, and how and why Toyota develops the Ji-Kotei-Kanketsu activity within the deployment of its Total Quality Management – TQM in the Office Gemba departments. The author describes its connection with the key concepts of the Toyota Production System such as Andon and Jidoka, as well as the philosophy and messages to be transmitted for its proper deployment, such as a concept widely applied in the Production-Gemba: "Only products without Defects are sent to the next process, which is the customer. Two examples of this deployment and its phases are also described, one of them within a support department, in charge of translating the specifications into English, and another example referring to the Engineering department. In this display appears a tool called Total Link System Chart - TLSC that describes the inputs, processes and outputs of a process, in order to study it in depth within the same environment that uses it, reinforcing the concept of Visual Management as the basis of the Toyota Product Kaizen – TPK. The Total Link System Chart – TLSC is actually a mixture of a SIPOC (Supplier-Input-Process-Output) diagram, and a simplified VSM, which is done on a big wall to visualize and continuously improve the administrative process.

[1] [jp] ***Ji-Kotei-Kanketsu*** 「自工程完結」: [eng] "Self-process completion" [esp] "Autocompletar/Finalizar el proceso propio". The Japanese expression has not been translated in all cases and remains only for reasons of clarity in the text.

It has long been noted that the productivity of Japanese white-collar workers is low. The responsibility of management in their discovery and improvement is important. Common sense in the Western world is that overtime per day is usually 2 hours or less, and total overtime per month is 40 hours or less. Compared to that, the overtime of Japanese administrative workers is too much. This is one of the reasons for Japan's high-cost structure. Combined with the super strong yen, there is no doubt that this high cost is an obstacle to competition among international companies. It's an old and new topic, but we must push for structural reforms, including at the management level, that raise the productivity of white-collar workers as soon as possible and, as a result, improve the quality of work. Now that ICT (Information and Communication Technology) is developing at a high level, there is an urgent need to immediately work on white-collar innovation using this technology.

From an international point of view, the productivity of Japanese manufacturing sites is highly appreciated. However, according to an OECD (Organization for Economic Development and Cooperation) survey, the productivity of white-collar workers ranks 12th out of 34 member countries. According to the same survey, Japan's productivity is estimated to be 20-30% lower than that of major Western countries. While Japan's manufacturing sites are achieving maximum output with the minimum number of workers, there are still many redundant workers hidden among administrative workers, especially in head office departments. Business owners are starting to take notice, too. In many cases, the focus of the recent restructuring is located in this division of the headquarters. Today, only those with high knowledge, skills, know-how, strategy, and leadership can survive among white-collar workers.

Toyota Motor Corporation, which has a reputation for high productivity, has focused on improving the quality and productivity of its back office, administrative, and indirect departments in recent years by making use of its knowledge and systems. This time, I would like to report on its goals, mechanism and future issues.

1. Company-wide quality improvement activity Self-process Completion Goals (JI-KOTEI-KANKETSU)

The Toyota Audit Regulations (Revised Version) include:

1. Directly capture consumer requests and reflect them in the products;
2. Audit product quality and business operations and improve them

It is the company's TQM (enterprise-wide quality management) activity that reverses this. As a basic philosophy:

I. The customer comes first;
II. The constant improvement;
III. The participation of all employees

These are the three pillars for improving quality and performance in the workplace (productivity improvement = cost reduction), as an extension of individual effort, and for improving organizational vitality (performance).

Using the knowledge cultivated through the Toyota Production System, etc., the company has implemented company-wide activities that extend horizontally to administrative departments.

What we are currently doing (since 2007) is the "self-process completion" activity. The first stage is "TPK (Toyota Product Kaizen)" activities. It was a movement to eradicate defects, errors, and problems in products, services, and jobs through improvement activities. Currently, ongoing self-processing completion activities progressed rapidly in the early 2000s.

In response to the globalization of the company, by organically linking the science of SQC (Statistical Quality Control), CS (customer satisfaction), improvement activities and activities of the global quality control circle, we aim to improve the quality of Toyota overall and the quality of work.

In order to flexibly respond to changes in the rapidly changing business environment, such as the expansion of globalization, the technological evolution of HV (hybrid) vehicles and the sophistication of ICT, the activities of change and the self-process completion (Ji-Kotei-Kanketsu) serve to reform the consciousness of employees and review work methods. In 2010, the Ji-Kotei-Kanketsu movement was integrated, and in this fiscal year, a new Customer First Promotion Headquarters (supervised by Shinichi Sasaki, Vice President) was established and transferred to the Promotion Department of TQM to promote "Own Process Completion" as part of TQM promotion. This is how we are expanding our activities. The roots of the self-completion concept lie in founder Sakichi Toyoda's development concept for the Toyoda Model G automatic loom. The motif is equipped with a mechanism that automatically stops when the thread breaks, revealing the problem and making improvements until it is resolved. the root cause is fixed. "Quality is built into the process", and only products without defects are sent to the next process, which is the customer. To do so, I must take pride in and take responsibility for the work entrusted to me.

It is often said that "manufacturing is developing people", but it is also possible to think that "business management is developing people". The self-process completion activity (Ji-Kotei-Kanketsu) is based on this idea and also encourages human beings who can judge the quality of their work in the very act in which it is performed, and act accordingly. It is autonomous personal self-growth, and it is also a human resource education activity that will never cause trouble for others. There are two major environmental changes behind the promotion of this activity. The first is the sophistication and complexity of the technology. As a result, the division of labour and the subdivision of labour progress, and business processes become more complicated and diverse. As a result, there is a risk of loss of business, because inconsistencies in specifications occur, where products are delivered without sufficient quality. The second is the rapid expansion of business. As a result of the busyness of work and the diversification of human labour resources, as well as the transmission and use of know-how, things that must be done are skipped or omitted, or knowledge is buried and not used. To solve this situation, the company chose the path of self-process completion (Ji-Kotei-Kanketsu), based on a return to origins (foundational spirit).

2. How to proceed with the self-process completion and its results

Basically, our goal is to spiral up by turning the Deming cycle.

P (Plan): Clarify the purpose and goals of the work.

In other words, for whom (the next process = customer), we independently decide what value (needs) to provide and when. Then clarify the process to achieve this and organize the arrangements (overall process, including related departments). Next, we break it down into elementary jobs and clarify the necessary conditions (non-defective product

conditions/judgment criteria). In other words, it is necessary to decompose the organized work process into a state where the person in charge can judge whether the work is well done or badly done, and can handle it. And we will prepare an environment in which history and knowledge accumulation can be used.

Then turn to (practice) → C (evaluation) → A (improve).

Automobile Specifications Translation Example

As a practical example of this (good product condition and judgment criteria), we will take "car specification translation work".

The workflow is as follows: (1) Check and prepare the specifications (in Japanese) of the vehicle model to translate (2) Translate the specifications into English (3) Set up for specifications (4) Order printing.

Before starting work, confirm that all necessary items (non-defective product conditions) are present. Good product conditions here refer to the following five areas.

1. **Input:** Translated car model specification information. Specification information from similar models in the past.
2. **Skill:** Eiken [Jitsuyo Eigo Gino Kentei (Test in Practical English Proficiency)] level 2 or higher, understanding of automotive terminology, etc.
3. **Tools:** Translation system, Japanese-English comparison table of technical terms. Dictionaries, English translators, etc.
4. **Method:** Collect technical terms and translate them first in the automotive glossary.
5. **Points to note/Reasons**: Collect examples of past failures (eg technical terms not translated correctly etc.) and prepare countermeasures.

After preparing and acknowledging all these things, we proceed with the elementary work (English translation), and before the work is finished, we have to make judgment criteria (that all the elements of the specification have been translated, that the terms technicians match Japanese-English). Comparison table, after confirming that there are no points of customer dissatisfaction, whether something is missing in the next process, etc.), is sent to the next process (print request).

Example of an Engineering Department

An example from a given engineering department (for two years starting in 2009) is now shown as an example of the results of these activities. The staff of this department is 128 people, including management and indirect workers. When promoting its activities, the department emphasizes the following six points, constantly conducts questionnaires, "visualizes" the results and shares them. These six points are also KPIs (Key Performance Indicators). The 6 points are (1) degree of understanding of the purpose of the work (2) clarity of the work criteria (3) understanding of customer satisfaction (4) visualization of the work (5) establishment of results (6) organization. Accumulation of knowledge was demonstrated on a radar chart to measure progress. As a result, we managed to reduce the number of staff by approximately 18% = 23 people.

Mr. Hiroyoshi Suzuki, who is responsible for promoting this activity (Director of the Self-Process Completion Promotion Office —Ji-Kotei-Kanketsu—, TQM Promotion Department), said that —the main issues and points to consider are “First create a manual and enforce its strict observance, and as a result, you will produce people who don't think about it anymore. Second,

we must think that the completion of the process itself (Ji-Kotei-Kanketsu) requires man-hours at the beginning. If that happens, everyone hesitates about it. In the short term, inspection is possible. But you have to try to make people understand that this is not the case, and prove it ”—he recalls.

I will make a few points about it. Output changes (complexity, sophistication, diversification) with the times associated with each job. Constantly establish the awareness that everything that does not have added value is waste. Visualize and simplify the entire process. Completely eliminate errors, such as the number of tasks to redo, in the meantime. Pre-processing and post-processing, and arrangements and adjustments with related parties are also necessary. Modularization is also necessary in order not to complicate when problems occur frequently in all industries. Increasing individual awareness and behaviour will motivate the company as a whole to eradicate defects, bugs, problems and complaints (to customers) directly. To raise the bar, compare similar jobs and aim for best practices. And finally, the concept of the self-completion process –Ji-Kotei-Kanketsu— must be applied to non-routine or creative work.

And now, in the next step, our goal is to apply it to new businesses. To facilitate this, we are accelerating the development of textbooks so that the scientific method of problem-solving can be widely used.

3. Application of the basic policy of "5S for administrative work" and "TPS" (Toyota Production System).

The purpose of 5S (classification, order, cleanliness, and discipline) is to (1) improve the quality and efficiency of work, (2) increase the precision and speed of work, (4) reduce costs, (5) effectively use of space, and (6) Cultivation of a comfortable workplace. In summary, to improve the independence of each person, good teamwork and leadership. Thus, the ultimate goal is to develop high-quality human resources, improve management skills, revitalize the organization, and strengthen the organizational structure to sustainably carry out all management improvement activities.

In the case of Toyota, 5S activities are positioned as an important foundation, but they are currently focused on the next three points in the Ji-Kotei-Kanketsu deployment.

1. **Safety at work:** In the past, activities were mainly focused on manufacturing sites, but recently various activities have been implemented at the company level or individually, such as organizing campaigns and inspecting unsafe areas to ensure safety. safety in office workplaces and prevent pedestrian accidents. It is implemented department by department.
2. **Privacy management:** From the perspective of preventing confidentiality (information security) leaks, "clean desktop" (5S around the desktop), "clean screen" (hide the computer screen when you are away), organize servers etc and grant appropriate access rights, etc., we are promoting discipline (strengthening of regulations) of information management in the organization and the eradication of human error.
3. **Knowledge accumulation (Knowledge and information 5S):** As part of self-process completion, organize past data and reports, insights and key points, link business processes on top of that, user-friendly environment using ICT, etc. We are also working on clothing.

These are not all company-wide efforts, but various departments are actively working on them. As an example of the use of TPS, I will present the case of JIT (just in time) in the administrative and management departments.

As one of the self-completion process –Ji-Kotei-Kanketsu— promotions, we are using and implementing "process ring" activities. For example, in the development department, many people are involved in the same work, and we have to start by unravelling the process. Therefore, we devised a description method called "TLSC (Total Link System Chart)", visualized the input and output chain of processes based on the description method, and determined whether the schedule was consistent or not. So where is the bottleneck and how to fix the bottleneck?... In addition, as a means of eliminating bottlenecks, it is useful for securing human resources, parallelizing processes, and early agreement on the conditions for establishing reviews.

As an activity to reinforce self-completion process –Ji-Kotei-Kanketsu—, the company is also working on "visualization" (visual management), making it as visible as possible and promoting the sharing of purposes, insights, and insights among all employees.

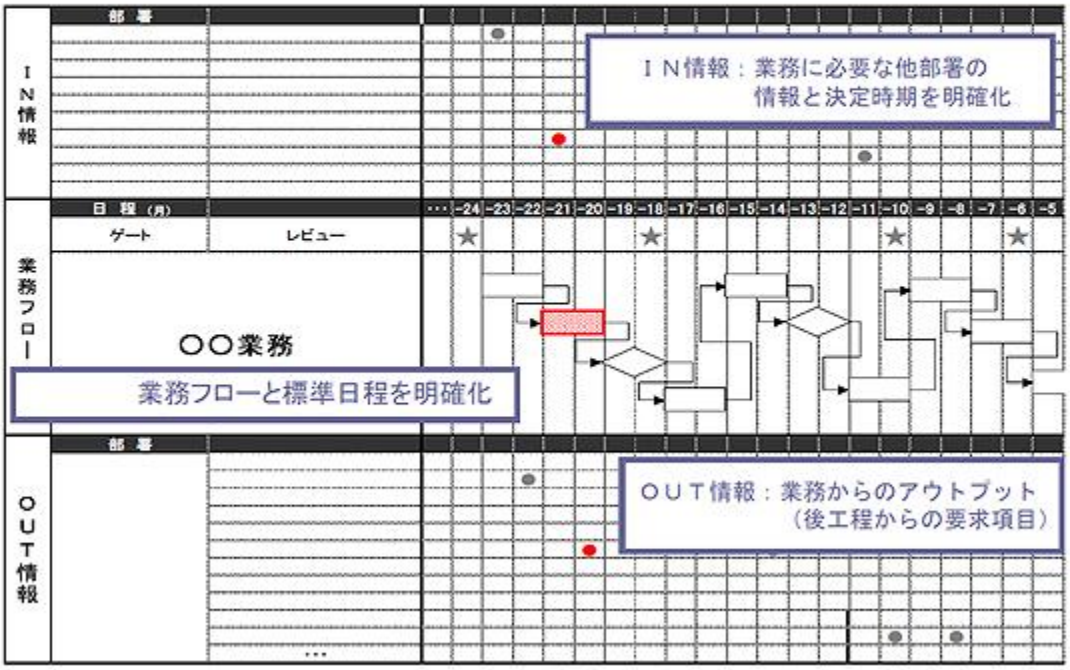
This section presents an example of the production setup process. The flow is:

(1) classify the current process and actual input and output based on a form;
(2) identify problems and issues with related parties and;
(3) investigate the root cause of the problem and consider countermeasures;
(4) Organize the process that incorporates countermeasures and inputs and outputs;
(5) Break down important processes into elementary work and specify judgment criteria and quality conditions.

It is displayed in the workplace, so that it is possible to see which department is currently working on what type of problem, and everyone can understand the important points that need to be achieved by when. In particular, understanding and visualizing the current situation is an important measure for the company.

These activities can be independent (self-contained) self-respecting activities in which all employees share what problems the company is currently facing and in which direction it is headed, and ask what next steps they need to take. This, in turn, is a pressing problem for the Japanese business community. There is no doubt that this is directly related to agile management (acceleration of decision-making and action) and true global management.

TLSC（Total Link System Chart）とは



見える化の事例

ポストIT（赤）：プロセス名　　ポストIT（黄）：問題点、課題

IN、OUT：実際の帳票